**Key Concepts:**

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| * diffusion, rate * effect of temperature * enzyme, enzyme regulation, enzyme/substrate concentration, enzyme activity * homeostasis * metabolic rate * osmosis; water flow * pH, pH scale: acids and bases |
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Objectives: Student will be able to:

* **Explain why an organism that has an enzyme deficiency is**

**unable to perform a life function.**

* **Explain how the cell membrane controls the materials that**

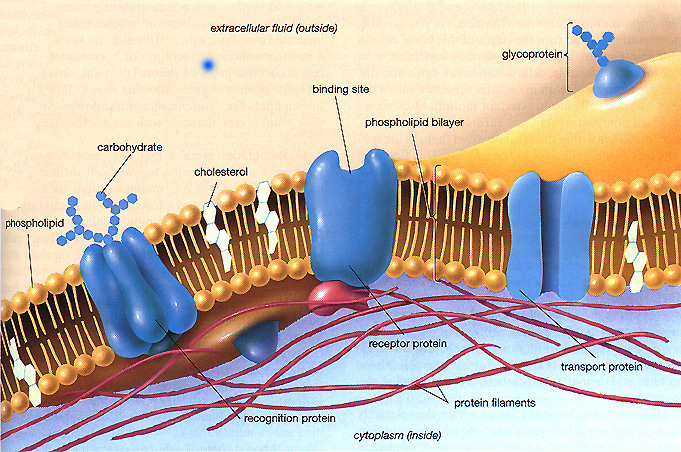
**enter and exit a cell by analyzing the processes of diffusion**

**and osmosis.**

* **Evaluate the effect of solute concentration on the**

**size/volume of cell by designing a laboratory**

**investigation and analyzing the results.**



Pertinent Information:

|  |  |
| --- | --- |
| **“Big” Ideas** | Organisms maintain homeostasis by adjusting to external and internal changes.  Factors that regulate chemical activities support homeostasis.  Enzymes control the rate of chemical reactions.  Substances move from an area of high concentration to low concentration |
| **Essential Question** | How can we apply our knowledge of macromolecules and chemical compounds to enhance our quality of life? |
| **Enduring Understanding** | Organisms maintain homeostasis by adjusting to external and internal changes.  Enzymes control the rate of chemical reactions in living systems.  In living systems, substances move across a semi-permeable membrane from an area of high concentration to low concentration. |

Notes: